

**IN THE CLAIMS**

Please amend claims 16 and 18 as set forth below.

Please add new claims 23-26 as set forth below.

1. – 15.(Withdrawn)

16. (Currently Amended) A semiconductor device comprising:  
a plurality of layers of semiconductor material epitaxially grown one on another;  
and

at least one of the semiconductor layers including a surfactant incorporated within  
with the semiconductor material.

17. (Original) A semiconductor device as claimed in claim 16 wherein the surfactant  
is chosen from the group consisting of antimony, indium, bismuth and thallium.

18. (Currently Amended) A semiconductor device as claimed in claim 17 wherein the  
surfactant atoms and the semiconductor material atoms in the at least one of the semiconductor  
layers are in a flux ratio in a range of approximately from 0.0001 to 0.1.

19. (Original) A semiconductor device as claimed in claim 16 wherein the  
semiconductor material includes one of aluminum and gallium.

20. (Original) A semiconductor device as claimed in claim 19 wherein the surfactant  
includes antimony.

21. (Original) A semiconductor device as claimed in claim 20 wherein the flux ratio is in  
a range of approximately 0.0001 to 0.1.

22. (Original) A semiconductor device as claimed in claim 16 wherein the semiconductor device includes at least one of a high electron mobility transistor, a vertical cavity surface emitting laser, an edge emitting laser, a heterostructure bipolar transistor, a resonant tunneling diode, and the like.

23. (New) A semiconductor device comprising:

    a plurality of layers of semiconductor material epitaxially grown one on another, one of the plurality of semiconductor layers including  $\text{Al}_x\text{Ga}_{-x}\text{As}$ , wherein x is a number within a range from zero to one;

    the one of the plurality of semiconductor layers including an antimony surfactant incorporated within the  $\text{Al}_x\text{Ga}_{-x}\text{As}$ ; and

    antimony surfactant atoms and  $\text{Al}_x\text{Ga}_{-x}\text{As}$  atoms in the one of the plurality of semiconductor layers being in a flux ratio in a range of approximately 0.01 to 0.02.

24. (New) A semiconductor device comprising:

    one of a high electron mobility transistor, a vertical cavity surface emitting laser, an edge emitting laser, a heterostructure bipolar transistor, and a resonant tunneling diode including a plurality of layers of crystalline semiconductor material epitaxially grown one on another;

    at least one of the plurality of layers of crystalline semiconductor material including a surfactant incorporated within the crystalline semiconductor material.

25. (New) A semiconductor device as claimed in claim 24 wherein the at least one of the plurality of layers of crystalline semiconductor material includes  $\text{Al}_x\text{Ga}_{-x}\text{As}$ , wherein x is a number within a range from zero to one.

26. (New) A semiconductor device as claimed in claim 27 wherein the surfactant incorporated within the crystalline semiconductor material includes antimony, antimony surfactant atoms and  $Al_xGa_xAs$  atoms incorporated within the crystalline semiconductor material being in a flux ratio in a range of approximately 0.01 to 0.02.